

PRODUCT PERFORMANCE / EFFICACY REVIEW

Mark Suarez, Entomologist - IB

DATE: 17 November 2006

EPA REG. NUMBER: 279-3294

PRODUCT NAME: Talstar 2% MB Insecticide

REGISTRANT: FMC Corp. Agricultural products Group

PM: George LaRocca, PM 13
REVIEWER: BeWanda Alexander

DECISION #: 369117
DP BARCODE: 331854

ACTION: R34

ACTIVE INGREDIENT(S): 128825, Bifenthrin.....2.0%

TYPE: Manufacturing Use Product

OPPTS GUIDELINE(S): 810.1000
810.3000

MRID: 46898201

GLP ?: No

SITES: Treated Articles (Plastic)

PESTS: Subterranean Termites and Fire Ants

STUDY APPLICATION RATE: See summary.

LABEL APPLICATION RATE: 0.1% wt/wt

STUDY SUMMARY:

MRID 46898201

Sommer, W. (2006) Protection of Treated Articles from Damage by Subterranean Termites and Ants Using Talstar 2% MB. Project Number: PDM/076/06. Unpublished study prepared by FMC Corp. Agricultural Products Group. 80 p.

The registrant submitted data on the effectiveness of a plastic treated at the rate of 0.1% wt/wt relative to an otherwise identical control plastic. In the first study, the product was tested against the termites, *Coptotermes acinaciformis* and *Mastotermes darwiniensis*. Additional pressure from *Coptotermes frenchi*, *Nasutitermes exitiosus*, *Amitermes* sp. *Heterotermes* sp., *Microcerotermes* sp. and *Schedorhinotermes* sp. was noted in some instances. These termites are Australian species, not found in the US. No penetration of the 0.1% Bifenthrin treated sheets was noted by termites, however, beetle larvae damage was observed. In addition the tape used to seal the plastic sheeting demonstrated susceptibility with some regularity; although failure of the Bifenthrin treated tape did not translate into a breach of the plastic sheeting. One site demonstrated no termite pressure (controls and treatment).

In the second study, the effectiveness of treated plastic was tested against fire and carpenter ants. The study design employed to evaluate the product against the target ants does not provide the information necessary to determine the effectiveness of the product. In the fire any trials, one failure was observed in the treatment group within 8 days, while 8/10 control sheet were damaged by fire ants. These data are not acceptable for support of a claim against fire ants due to the short duration of protection and the relatively low efficacy (i.e., approximately 88% using Abbott's Correction). The test against Carpenter ants was also problematic. Wooden blocks were placed on top of plastic sheets as bait. The damage done by carpenter ants to the sheet was observed over 2 years. No damage was observed in the treatment groups (0.03% and 0.1% Bifenthrin w/w), 8/10 control sheet had hole at the end of year 1 with an additional control sample damage by the end of year 2. However, carpenter ant do not eat wood as food, they excavate it for nesting; the blocks used would be unlikely to serve as nesting sight; and they was no confirmation provided that the damage noted was a result of carpenter ants.

ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS

It is noted that the thickness of the plastic is likely to be a key component of the efficacy of the end use product. A 0.1% Bifenthrin plastic sheet may function perfectly well at 50 mils, but be insufficient at 5 mils. Any claims against pest of public health or economic importance will require that the final concentration of Bifenthrin in the end use product AND the minimum thickness of the end use product be specified.

Although the data submitted are only partially satisfactory for termites (i.e., lack of control pest pressure, inability to evaluate control pressure, inability to determine length of effectiveness, use of species not found in the US, and the thickness of sheeting required), the data are adequate to conditionally support a treated article claim for impregnated plastic to prevent destruction of impregnated plastic (as thick or thicker than that used in the termite trials submitted in MRID 46898201) at or above a rate of 0.1% Bifenthrin wt/wt against termites. The claim must be supported with field data

demonstrating at least 2 years of effectiveness of the AI at the application rate and plastic sheet thickness specified on the label under various storage conditions against target pest insects within 36 months. The registrant is encouraged to submit a protocol for review prior to initiation of the field trials.

Claims against ants are not supported. Data may be submitted or cited in support of the desired claim.

Label comments:

The registrant is requesting that the following directions for use be supported:

“For formulation into an insecticide for

- 1) The following uses:*
 - a. In plastic films to be used in contact with bananas for importation only where the product is registered for use in the foreign country;*
- 2) Uses for which USEPA has accepted the required data and/or citations of data that the formulator has submitted in support of registration; and*
- 3) Uses for experimental purposes that are in compliance with USEPA requirements.*

Formulators using this product are responsible for obtaining USEPA registration for their formulated product which may be labeled for use patterns as found on this label.

To distribute Bifenthrin throughout articles, to a maximum concentration of 0.1wt% Bifenthrin, for protection against damage to such article from subterranean termites and ants.”

I would prefer:

“For formulation into an insecticide for the following uses:

- 1) In plastic films to be used in contact with bananas for importation only where the product is registered for use in the foreign country;— and*
- 2) ~~Uses for~~ **products that are registered by the**[added by MES] **USEPA** ~~has accepted the required data and/or citations of data that the formulator has submitted in support of registration; and~~ [This language is misleading, in my opinion. What does accepted mean?]*
- 3) ~~Uses for experimental purposes that are in compliance with USEPA requirements.~~ [This would not bother me, if I did not think that this might be interpreted to include the 10 acre allowance, as has occurred in the past.]*

*Formulators using this product are responsible for obtaining USEPA registration for their formulated product **which may be labeled for use patterns as found on this label.** [Are we responsible for enforcing this? It also seems to contradict #2 in original directions.]*

To distribute Bifenthrin throughout articles, to a maximum concentration of 0.1wt% Bifenthrin, for protection against damage to such article from subterranean termites. ” **[Is this a sentence? I’m not sure that I understand the intent of this.]**

Enclosure

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